REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation

DT1696 6/2012

RECEIVED
5/15/2019
BUREAU OF STRUCTURES

☒ **Grade Separation** ☐ **Stream Crossing** ☐ **Culvert**

☐ **Railroad** ☐ **Retaining Wall** ☐ **Noise Barrier**

☐ **Sign Structure** ☐ **Other:** _____

For guidance see: **http://dotnet/dtid_bos/extranet/structures/reports-checklists.htm**

Design Project ID 1090-35-00	Construction Project ID 1090-35-70	Highway (Project Name) Rock Freeway IH 43		
Final Plan Due Date 12/1/2019	Preliminary Plan Due Date 5/15/2019	☐ Town ☐ Village ☒ City New Berlin		
PS&E Date 2/1/2020	Letting Date 5/12/2020	County Waukesha		
Structure Number B-67-113		Section S32	Town T06N	Range R20E
Station 100+00	Latitude: 42°55'59.06" Longitude: 88°09'31.33"	☒ YES ☐ NO Structure Located on National Highway System		
For Survey and CADD Files Horizontal Coordinate System: WCCS Waukesha County Zone, NAD 83 (2011) Vertical Datum: NAVD88 (2012)		**Traffic Forecast Data**		
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed	Functional Class
Feature On CTH Y		Feature On 2042	23,000	45 mph	Oth Prin Art-Urban (14)
Feature Under IH 43		Feature Under 2042	61,500	75 mph	Interstate-Urban (11)
Region Contact: Lance Parve (Area Code) Telephone Number(s): (414) 731-5375 Email: lance.parve@dot.wi.gov		Consultant Contact: Mohammed Zagloul PE,SE (Area Code) Telephone Number(s): (414) 751-7223 Email: mzagloul@kapurinc.com		

Work To Be Performed

Field Information Required
Item Number *(see Pages 2–4)*

- ☐ A. Structural Repair 1–3, 22
- ☒ B. Overlay 1–3, 10–22, 26–28, 32, 34
  - ☐ Concrete Overlay ☐ Asphalt Overlay
  - ☐ Polymer Modified Asphalt Overlay ☒ Thin Bonded Polymer Overlay
  - ☐ Other: _____
- ☐ C. New Bearings 3, 8, 9, 22
- ☐ D. New Railings 15–17, 20–23
- ☐ E. Curb and Sidewalk Repair 2, 3, 16, 22, 23
- ☐ F. Abutment Repair 2, 3, 12, 16
- ☐ G. Pier Repair 2, 3, 12, 16
- ☐ H. New Deck 1–6, 9, 10, 13–28, 32–34
- ☐ I. Widening 1–28, 30, 32–35
- ☐ J. Joint Repair 2, 3, 8, 16, 19, 22
- ☐ K. Surface Repair 2, 3, 22
- ☐ L. Raising Bridge 3, 6, 9, 16, 20–24
- ☐ M. Slope Stabilization 1–3, 30
- ☐ N. Scour Repair ..... 1, 2 or 3, 16, 19, 21, 27, 29, 31–35
- ☐ O. Painting 16, 22, 24
- ☐ P. Other: _____

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

☒ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates.

☒ 2. Outline deficient areas on existing structure plan or drawing.

☒ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs.

☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.

☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units.

☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.

☐ 7. Show and identify starting stationing on bridge.

☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
(a) Joint opening measured normal to joint at centerline of roadway and both curb lines.
(b) Clearance between girder ends at piers.
(c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
(d) Temperature of structure determined by averaging top and under deck (if accessible) readings.

☐ 9. Fixed and expansion bearings - condition and orientation.

☒10. Number and width of proposed pours including construction staging sequence.

☐11. Location of existing construction joints in the deck.

☒12. Estimated Quantities:

Preparation, Decks, Type 1	Sq. Yd. TBD	
Preparation, Decks, Type 2	Sq. Yd. TBD	
Full Depth Deck Repair	Sq. Yd. TBD	Galvanic Anodes? N/A
Concrete Surface Repair Superstructure	Sq. Ft. N/A	Galvanic Anodes? N/A
Concrete Surface Repair Substructure	Sq. Ft. N/A	Galvanic Anodes? N/A
Curb Repair	LF. N/A	Galvanic Anodes? N/A

☒13. Sufficiency number: 84.1 (obtain from HSI Bridge Inventory System)

☒14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	7 Good	6 Satisfactory	6 Satisfactory	5-Legal Load Stress Not Exceeded	6-Condition Equal to Min. Criteria

☒ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 07/08/2013	HS16	HS26
After Completed by Bridge Designer	To Be Completed During Final Design	To Be Completed During Final Design

☒ 16. Utilities on/near Structure. (WisDOT policy is to avoid placing utilities on the structure.)
☒ Yes ☐ No

Type	Owner and Contact Information	Size	Opening at Abutment	Weight	Pressure
2- Lighting Conduits West Parapet		2" Dia.			
2- Lighting Conduits East Parapet		2" Dia.			

☒ 17. Is existing bridge railing deficient?
☐ Yes ☒ No If Yes – Replacement Rail Type:

☐ 18. Drains to be:
☐ Raised ☐ Closed ☐ Downspouted ☐ New

☒ 19. Traffic maintained on bridge during work?
☒ Yes ☐ No If Yes – Include sketches

☒ 20. Will guard rail be attached?
☐ Yes ☒ No If Yes – Which corners?

☒ 21. Will work to be performed eliminate all deficiencies?
☒ Yes ☐ No If No – Explain: See comments below

☒ 22. Hazardous waste (asbestos) to be removed?
☐ Yes ☒ No If Yes – Explain:

☐ 23. Wing location(s) for surface drain anchors:

☐ 24. Painting?
☐ Yes ☐ No If Yes – Explain on Page 4
(all, part, railing, color system, containment, bid items)

☐ 25. Desired roadway width: *(new deck / widening)* _____ Ft.
Desired sidewalk clear width: Left: _____ Ft. Right: _____ Ft.

☒ 26. Maximum increase in grade line elevation 0.25 In.

☐ 27. Benchmark description to be shown

☒ 28. Desired final cross slopes on bridge 0.02 Ft./Ft.

☐ 29. Underwater Inspection Report including:
- Streambed Cross Section With Pier, Footing and Seal Elevations
- Pier Elevation Drawings
- Pier Layout
- Hydrographic Survey

☐ 30. Slope stabilization, provide:
Type: _____ Quantity: _____ CY.
Slope: _____ Ft./Ft. Fill: _____ CY.

☐ 31. Preliminary layout of grout bags or proposed scour repair.
C.I.P. Articulated Mats (for Scour) _____ CY.

Grout Bags (for Scour) _____ CY.
Heavy Riprap _____ CY.
Extra Heavy Riprap _____ CY.

☒ 32. Report submitted with Preliminary Plan requires **no** CADD file submittal *(See ESubmittal instructions)*.

☐ 33. Report submitted for development of Preliminary Plan to structure design engineer requires CADD file (if available) submittal and Report submittal to Soils Engineer if project involves foundation modifications.

☒ 34. Coordinate with structure design engineer **before** going into the field if existing structure has no available plans, if staged construction is planned, or if there are adjoining/adjacent structures that will remain in place.

☐ 35. If project involves substructure widening coordinate with structure and/or hydraulic design engineer to determine if information on the separation and/or stream crossing SSR will be required.

Additional Information

Elaborate on other concerns such as: DNR, Local, Utility Conflicts, Aesthetics, Railing Type and Staged Construction.
Please be as detailed and specific as possible.

WisDOT SE Region advanced Let from 9/2021 to 5/2020 and is developing the roadway plans.

Item #10: Deck repairs and polymer overlay to be done with traffic staging. Traffic staging to be determined during the final design.

Item #12: Quantities for Deck Preparation Type 1 and Type 2 and Full Depth Deck Repair to be determined in final design.

Item #13, 14, 15: These values were taken from the HSI system on 04/24/2019.

Item #16: Utilites on B-67-113. Per the existing plans, the bridge has 2-2" diameter lighting conduits in the west and east parapets. There are also junction boxes located in the west and east parapets.

Item #18: No drains on the structure.

Item #19. Traffic staging to be determined during the final design.

Item #21: Based upon the most recent inspection report dated September 4, 2018, the following deficencies are noted:
-Girder 1 was damaged in 2017 by a dump truck traveling full speed below the bridge with a lifted box. The girder was repaired with heat straightening in 2018.

Item #22: Per the asbestos inspection report dated June 14, 2016 none of the materials that were identified as potentially ACM and sampled tested postive for asbestos. The overlay on the bridge can proceed as planned. Standard Special Provision (STSP) 107-125 should be included in the specifications.

Other:
No additional maintenace items were requested/recommended or approved by the SE region to be included. Per the inspection report dated September 4, 2018 the pier cap is experiencing several load induced cracks radiating diagonally up from each column. The pier cap is also experiencing several vertical cracks above each column. It is highly reccommended to rehabilitate the pier cap.